

REMARKS

Introduction

In response to the Office Action dated August 31, 2007, Applicants have amended claims 1, 26, and 32. Support for amended claims 1, 26, and 32 is found in, for example, pg. 5, lines 18-24. Care has been taken to avoid the introduction of new matter. In view of the foregoing amendments and the following remarks, Applicants respectfully submit that all pending claims are in condition for allowance.

Claim Rejection Under 35 U.S.C. § 102

Claims 1, 2, 4-7, 11, 13, 14, 26-28, 32, 35, and 37-42 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,888,211 (hereinafter Oka). This rejection is traversed and reconsideration and withdrawal respectfully requested.

Amended claims 1, 12, and 32 recite, in part, "...said outermost granular magnetic recording layer is formed by **sputter deposition in an atmosphere with at least one reactive gas** comprising oxygen, nitrogen, and/or carbon atoms."

Turning to the prior art, Oka discusses a process for vacuum-depositing a metal selected from cobalt and iron to form a magnetic layer on a substrate (abstract; col. 2, lines 59-66). Although Oka discusses sputter deposition of the cobalt type alloy thin film, Oka states that the sputtering method is **not suitable** for industrial production because the film-forming speed is low (col. 1, lines 27-30). Thus, Oka teaches away from sputtering. Oka also *teaches away* from techniques, such as, electron beam vacuum deposition, for forming magnetic layers including cobalt and chromium stating, "control of the composition of the film is **very difficult** because

cobalt and chromium are greatly different from each other in the melting point and the vapor pressure” (*emphasis added*, col. 1, lines 30-35). Though Oka teaches other deposition techniques (col. 7, lines 27-34), Oka does not suggest sputter deposition of the outermost granular magnetic recording layer in an atmosphere with at least one reactive gas comprising oxygen, nitrogen, and/or carbon, as required by claims 1, 26, and 32.

According to the claimed subject matter per amended claims 1, 26, and 32, the outermost granular magnetic recording layer is formed by **sputter deposition** in an atmosphere with at least one reactive gas including oxygen, nitrogen, and/or carbon atoms. Thereby as taught in the instant specification, oxides and/or nitrides are incorporated in the outermost granular magnetic recording layer, which results in smaller and more isolated magnetic grains (*see, e.g.*, pg. 5, line 25-pg. 6, line 5). However, Oka does not disclose or suggest this, and apparently is unaware of the unexpected improvement in the isolation of the magnetic grains of the outermost granular magnetic recording layer. Oka fails to disclose or suggest, at a minimum, “...said outermost granular magnetic recording layer is formed by **sputter deposition** in an atmosphere with at least one reactive gas comprising oxygen, nitrogen, and/or carbon atoms,” as recited in amended claims 1, 26, and 32.

The Office Action states, “the Examiner contends that since the magnetic layer of Oka is formed in the presence of oxygen gas to form an oxide in the magnetic layer which is *similar* to [the] Applicants’ magnetic layer formation method the oxide material in the magnetic layer would segregate the columns of magnetic material” (*emphasis added*).

Inherency requires that the prior art method necessarily has the required steps. The assertion that the prior art method is *similar*, but not an identical method, is insufficient to assert that the prior art inherently has the claimed steps.

That is, inherency may not be established by probabilities or possibilities,” *Scaltech Inc. v. Retec/Tetra*, 178 F.3d 1378 (Fed. Cir. 1999). In the instant case, as Oka does not suggest the Co-containing magnetic grains separated by grain boundaries including at least one of oxides, nitrides, and carbides, it cannot provide a basis for asserting inherency of this feature.

The Office Action states, “it is the Examiner’s position that not only *the voids* [of Oka] *but also the oxide material* in the magnetic layer will segregate the columnar granular material” (*emphasis added*).

Thus, the Office Action is setting forth a motivational rationale not supported by the record, but rather based solely on the Examiner’s belief of what one skilled in the art may have tried or recognized.

However, to set forth a rejection including Official Notice, the rejection must include some form of evidence in the record to support an assertion of common knowledge. If Official Notice is taken of a fact, unsupported by documentary evidence, then the basis for such reasoning must be set forth explicitly. The Examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. *See*, MPEP 2144.03(B) and (C) and 37 C.F.R. 1.104(d)(2). If the Examiner believes that the magnetic layer of Oka forms an oxide in the magnetic layer and would segregate the columns of magnetic material, the Examiner is specifically requested to provide **objective evidence**. Failure to provide objective evidence to support implicit official notice when challenged constitutes ground for reversal. *Ex parte Natale*, 11 USPQ2d 1222 (BPAI 1988); *Ex parte Nouel*, 158 USPQ 237 (Bd.App. 1967).

It is well settled that “the Board [and the Examiner] cannot simply reach conclusions based on [their] own understanding or experience - or on [their] assessment of what would be basic

knowledge or common sense. Rather the Board [and the Examiner] must point to some concrete evidence in the record in support of these findings.” *In re Zurko*, 258 F. 3d 1379, 1386 (Fed. Cir. 2001). *See also, In re Lee*, 277 F. 3d 1338, 1344-45 (Fed. Cir. 2002), in which the court required evidence for the determination of unpatentability by clarifying that the principles of “**common knowledge**” and “**common sense**” may only be applied to the analysis of evidence, rather than be a substitute for evidence.

Contrary to these requirements, the outstanding Office Action provides no sound technical and scientific reasoning to support the above recited Official Notice. The relied upon motion must be evidenced in the record, and cannot be based merely on an opinion of the Examiner.

Thus, Oka fails to disclose or infer, “...Co-containing magnetic grains are **segregated by grain boundaries** comprising at least one of oxides, nitrides, and carbides,” as recited in dependent claims 12 and 31.

With respect to claims 37-42, the Office Action asserts that since the process for producing the magnetic layer is the same as the Applicants’ process, the nanoscale roughness is achieved.

As noted previously, the Examiner’s Official Notice is traversed. If Official Notice is taken of a fact, unsupported by documentary evidence, then the basis for such reasoning must be set forth explicitly. The Examiner must provide specific factual findings predicated on sound technical and scientific reasoning to support his or her conclusion of common knowledge. *See*, MPEP 2144.03(B) and (C). Specifically, the Office Action provides no sound technical and scientific reasoning to support the above recited Official Notice.

Turning to the prior art, Oka is *silent* regarding the nano-scale roughness of the outermost granular magnetic recording layer. Oka fails to disclose or suggest, the nano-scale roughness, as required by dependent claims 37-42.

Claim Rejections Under 35 U.S.C. § 103

Claims 8, 9, 12, 30, 31, and 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Oka in view of JP 08-055323 (hereinafter Yoshida). Claims 8, 9, and 12 depend from claim 1, claims 30 and 33 depend from independent claim 26, and claim 33 depends from independent claim 32, and include all of the features of their base claim plus additional features, which are not taught or suggested by the cited references. Therefore, for at least these reasons, it is respectfully submitted that claims 8, 9, 12, 30, 31, and 33 are also patentably distinguishable over the cited references.

Claims 10 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Oka in view of Yoshida as applied to claims 8, 9, 12, 30, 31, and 33 above, and further in view of U.S. Patent No. 7,147,943 (hereinafter Ono). Claims 10 and 34 depend from claims 1 and 32, respectively, and include all of the features of their base claim plus additional features, which are not taught or suggested by the cited references. Therefore, for at least these reasons, it is respectfully submitted that claims 10 and 34 are also patentably distinguishable over the cited references.

Claims 3, 29, and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Oka in view of U.S. Patent No. 6,432,563 (hereinafter Zou). Claim 3 depends from claim 1, claim 29 depends from independent claim 26, and claim 36 depends from independent claim 32, and include all of the features of their base claim plus additional features, which are not taught or suggested by the cited references. Therefore, for at least these reasons, it is respectfully submitted that claims 3, 29, and 36 are also patentably distinguishable over the cited references.

Conclusion

In view of the above amendments and remarks, Applicants submit that this application should be allowed and the case passed to issue. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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